agricultural situation

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U.S. DEPARTMENT OF AGRICULTURE • STATISTICAL REPORTING SERVICE

ALL THAT WATER

ALL THAT WATER

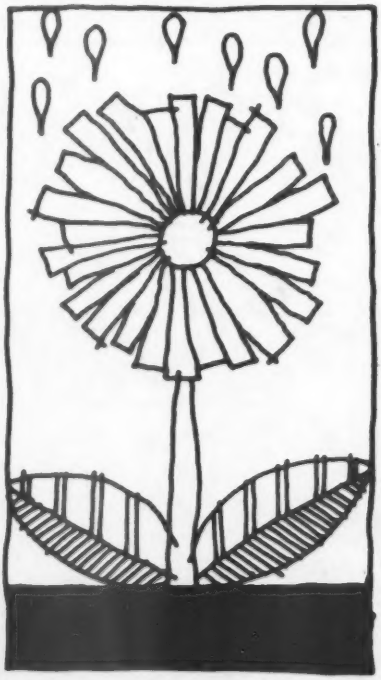
It's hard to imagine that the United States could ever run out of water. After all, more than 4.2 trillion gallons fall as rain, sleet, or snow on the 48 States each day. That gives every American over 20,000 gallons a day.

Very little of the earth's vast water resource is of any real use to people—99 percent is either salty or locked up in polar ice caps. Human needs must be met with the remaining 1 percent that's stored in lakes and rivers, underground aquifers, or soil moisture.

In a year's time, an average of 30 inches of precipitation falls on the United States. Of this, 21 inches evaporate from land or water areas, or are given off by plants. About two-fifths of the 21 inches is simply lost to evaporation, but the rest forms lifegiving moisture for most of our crops and forests.

The remaining 9 inches—or about 1.2 trillion gallons a day—accumulate in our rivers, lakes, and streams as natural runoff. Irrigation and water power are just a couple of the many uses of natural runoff, which water scientists consider our renewable supply.

While this renewable supply doesn't change much from year to year, a population gain of 62 percent since 1940 has just about tripled the withdrawals Americans make against it every year.



Rural people use most of our water. In fact, nearly 85 percent of the water consumed in this country goes to rural areas for agriculture, industry, and private homes. But the Nation's biggest single user is agriculture.

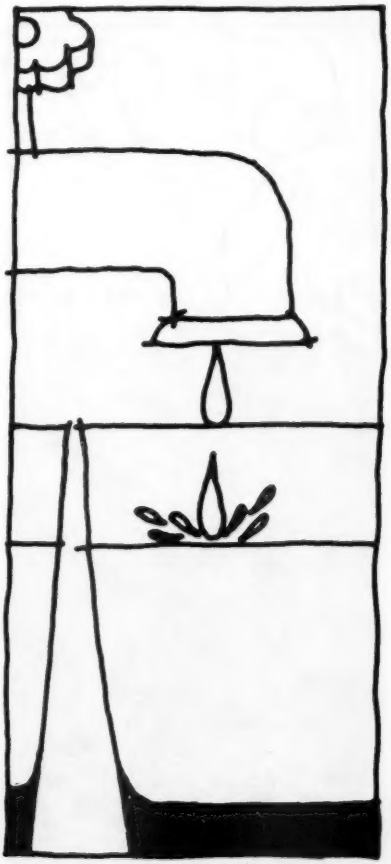
Irrigation, of course, is where most of agriculture's water goes. Today, one of every 10 American farms is irrigated, and total irrigation in this country works out to somewhere around 500 gallons per person per day.

Used extensively in the West, irrigation can spell the difference between high and low production, and, of course, high or low farm income. In the East, irrigation supplements natural rainfall and aids in time of drought.

Agriculture also uses water to protect crops against frost and as a medium for controlling high temperatures on specialty crops.

As individuals, Americans are pretty heavy handed with the water tap. Water use in U.S. homes now runs about 65 gallons a person each day. And with over 212 million Americans, that pencils out to close to 14 billion gallons every day, or over 4,900 billion gallons a year.

Industry and manufacturing have an even bigger thirst. Each day, manufacturing firms draw about 36 billion gallons from our lakes and rivers—which translates into an average daily equivalent of 170 gallons for every American.



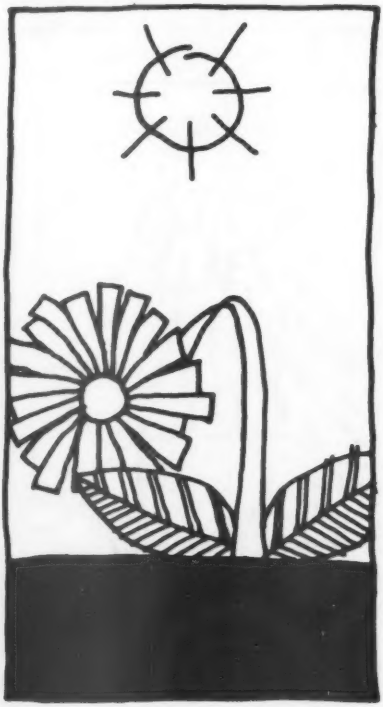
Despite a seemingly unquenchable demand for water, the United States still uses only a fraction of its available supplies. In 1965, the country tapped a mere 6 percent of its renewable annual supply. This amount may climb to 9 percent by 1980, and perhaps as much as 11 percent by the year 2000.

In other words, we'll have plenty of water at the turn of the century. But all is not rosy: Some regions are likely to have problems getting enough water—of acceptable quality—to foster economic growth in the coming years.

So despite abundant resources, water distribution may become an increasingly disturbing issue. Drought, of course, can strike just about anywhere. But our least dependable supplies are in the Southwest and Great Plains.

Limited water resources already threaten the West and Southwest, especially along the lower Colorado River region where demands of a swelling population have nosed ahead of existing supplies.

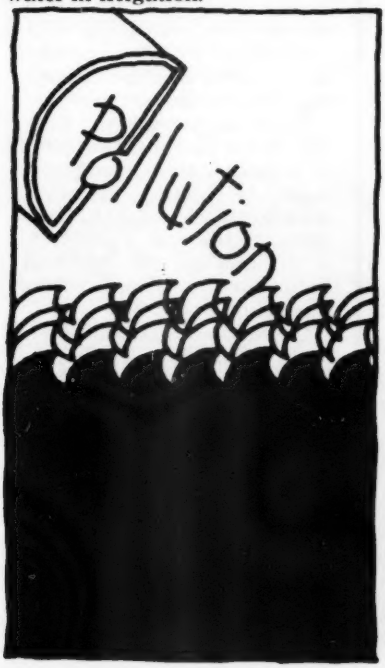
Reports from the Great Plains show that scattered areas are rapidly depleting their groundwater supplies. And in certain parts of the Texas High Plains, groundwater resources have been reduced by extensive irrigation. Producers in that region may someday have to return to dryland farming.



To most of us, water quality is something that's desecrated by man alone. But water has two *natural* enemies—sediment and dissolved minerals—that can also destroy its beauty and render it useless to people, plants, and wildlife.

But it's the damage caused by people—especially waste discharge from domestic and industrial sources, sediment from farms, factories, and construction sites, and sediment from logging operations and road construction—that poses a more immediate threat.

Water scientists have singled out the Northeast and certain parts of the West as areas where water quality is most imperiled. In our Western States, for example, more than half the irrigated area has salinity problems caused by poor soil drainage and insufficient use of water in irrigation.



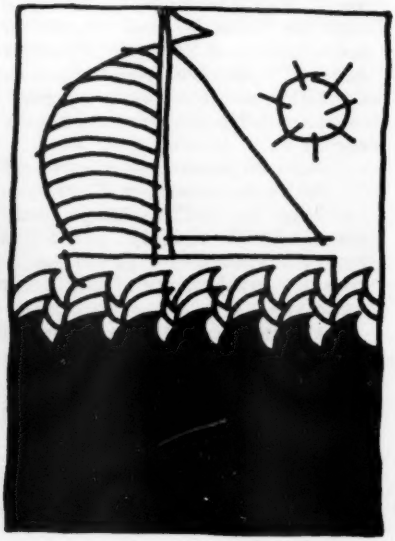
What's ahead? We can count on agriculture to continue as our No. 1 water user—at least for the foreseeable future.

By 2000, we may be irrigating 43 million acres of cropland in 17 Western States, Mississippi, Arkansas, Louisiana, and Florida. Other water uses, like steam electric power, will also expand rapidly.

Yet as we irrigate more land and develop new ways to harness power from water, there will be increased competition from other water users . . . one of them recreation.

Development of water-based recreation is expected to get high priority in coming years, particularly in rural areas, where such facilities sometimes generate more economic activity than agriculture.

Already these "higher-valued" uses are competing with agriculture in areas short on water supplies. With such conflicts escalating in the future, wise management and development of water resources become an absolute must.



GRAPES: FRESH MEANS FEWER

Pressed by rising costs and mounting demand by the wine and raisin industries, fewer and fewer California grapes ever make it to the table as fresh fruit.

Last year, California vineyards yielded over nine-tenths of the more than 4 million tons of grapes harvested in 13 major States. The Golden State grows three grape varieties . . . table, wine, and raisin.

Better than 60 percent of California's crop are raisin-types, of which Thompson Seedless is the most important. While most raisin grapes are dried for raisins or crushed for wine, some are sold to the fresh market.

Meantime, individual consumers have been eating fewer and fewer fresh grapes each year—in part because our growing national fondness for wine and raisins has cut back on available fresh supplies. In 1973, only 5 percent of California's raisin grapes were sold fresh, versus 10-13 percent in the late sixties.

Stepped-up retail prices are also a key to why Americans have turned sour on fresh grapes. Consumer prices have shot up about 75 percent since 1964. In turn, Americans now eat a little over 2½ pounds a person, compared with 3½ pounds a decade earlier.

Nearly all raisin-type grapes sold in the fresh market are Thompson Seedless. In 1972, growers paid about $1.36—roughly two-fifths more than in 1964—to produce a 23-pound equivalent lug of this grape variety.

Marketing costs also gathered steam and the marketing margin doubled during 1964-73. Harvesting and packing costs, for example, posted an 86-percent gain, while rail charges from California to New York and Chicago jumped by more than a third after 1967.

USDA economists say Thompson Seedless grapes will cost increasingly more to produce and market over the next several years, due to input shortages and soaring fuel costs.

The steeper costs, of course, will be passed down the line to consumers. By 1978, if price patterns remain unchanged, the New York or Chicago shopper who picks up a pound of grapes and hands the clerk a dollar may get back only 24 cents—versus 66 cents change in 1964.

LITER LEADERS

"Here you are . . . 3 liters of Chablis and 750 milliliters of sauterne. Will that be all?"

Get used to that jargon, because it won't be long until all wines come in metric bottles. Makers and distributors of alcoholic beverages will be the first major U.S. industry to go metric, according to USDA's Foreign Agricultural Service.

Effective January 1, 1979, all domestic and imported wines sold in the United States must be bottled in seven standard sizes, ranging from 3 liters (a little over ¾ gallon) to a diminutive 100 milliliter bottle containing just under a quarter of a pint.

Conversion to metric bottles will reduce the number of domestic wine bottle sizes from 16 to 7, and will eliminate around 20 different sizes of imported bottles.

Thinking in liters will take some getting used to, but with only seven bottle sizes, it will be easier for retailers to post unit prices . . . and for shoppers to make price comparisons.

HIGH ON HOPS

Never before has this country had so many hops on hand—a reassuring thought for U.S. beer drinkers.

Hops, of course, are the ingredient that gives beer its characteristic taste and aroma.

Last year's bumper 57-million-pound harvest helped build the bulging stocks. As of March 1, says SRS's Crop Reporting Board, producers, dealers, and brewers held a record 67.3 million pounds—up 15 percent over a year earlier.

Because demand for hops fluctuates so little from year to year, small changes in supplies can send producer prices veering wildly in the opposite direction. To protect themselves against volatile prices, producers rely on a Federal marketing order and sell their crops on forward contracts to dealers, who in turn sell to brewers.

As of March 1, brewers held the most hops—55½ million pounds, while dealers reported just over 11 million pounds, and growers, 650,000 pounds.

It takes only a touch of hops to produce a barrel of beer that's suited to today's tastes. That's why the "hopping rate," as it's called, amounts to less than a quarter of a pound of hops for each 31-gallon barrel of beer—less than half the amount added back in the thirties.

But growers shouldn't be discouraged by reduced hopping rates, judging by recent beer drinking trends. Trade sources report that Americans downed 4½ billion gallons of beer last year—that's around 20 gallons a person—versus just over 3 billion gallons in 1965.

FILL 'ER UP!

Pssst! Want to get better mileage out of your farm fuel dollars? Try buying gasoline in bulk.

That's a tip from USDA economists, who note that most farmers pay about 4 percent of their production outlays for gasoline, diesel fuel, and liquid petroleum gas (LPG).

Gasoline, however, is the major fuel used by farmers, who buy roughly 4 billion gallons a year. Therefore, a few cents off each gallon can quickly translate into a fistful of dollars.

A recent farm expenditures survey indicated that farmers buy about half their gasoline at the service station pump.

During the 1960's when gas prices remained relatively stable, farmers who bought gas in bulk saved roughly 4 cents a gallon off the pump price. Today, bulk gas runs about 6 cents less.

Economists indicate that if all farmers had bought at bulk rates last year, they could have saved around $94 million. Not all producers, of course, use enough gasoline to justify the expense of buying and installing gasoline storage tanks—a "must" for bulk purchases. But for farmers with sufficiently large operations, buying in bulk can mean a savings of several hundred dollars each year.

Bulk tanks range in price from around $200 for small portable models to several thousand dollars for large tanks installed underground. Economists add that, due to current economic conditions, there's plenty of steel available for manufacturing gasoline storage tanks.

SURVEYSCOPE

To give our readers a clearer picture of the vast scope of SRS activities, Agricultural Situation presents a series of articles on special surveys undertaken in various States. While these are not national surveys, they are important to the agriculture in individual States.

New York may bring to mind skyscrapers and urban sprawl, but food and agriculture still form the single most important industry in our country's most populated State.

"That's one reason why last year's survey of 1973 farm fuel use was so necessary," claims Glenn Suter, Statistician in Charge of the New York Crop Reporting Service in Albany. "Knowing the specific fuel needs of farmers in our State will be of utmost importance as fuel allocation programs are developed or modified."

The New York farm fuel survey was conducted by the State's Department of Agriculture and Markets, cooperating with the State Extension Service and the Agricultural Stabilization and Conservation Service (ASCS).

Questionnaires, developed by the cooperating agencies and mailed out by the Extension Service and ASCS asked farmers to specify the number of acres they had planted to certain fruits, vegetables, and field crops. Farmers were also asked how much livestock and poultry they held, and how much gasoline, diesel fuel, propane, and electricity they had used each month during 1973.

"Completed questionnaires from

New York's farm fuel survey formed the basis of the State's first all-out attempt . . .

some 15,000 farms across the State were returned to my office, where we edited, tabulated, and summarized the report for the New York Commissioner of Agriculture," says Suter.

Survey results were coded, stored on magnetic tape, and sent to Cornell University, where they formed the basis of the first comprehensive attempt to measure farm energy requirements in New York State.

"Cornell researchers combined our survey findings with data from their own farm cost studies and an engineering analysis of farm operations for each crop," states Suter. "Major State power companies also furnished information on total farm use of electricity."

From all these inputs, the Cornell study team developed and published estimates of fuel and electricity requirements for individual field crops, fruits, vegetables, and livestock.

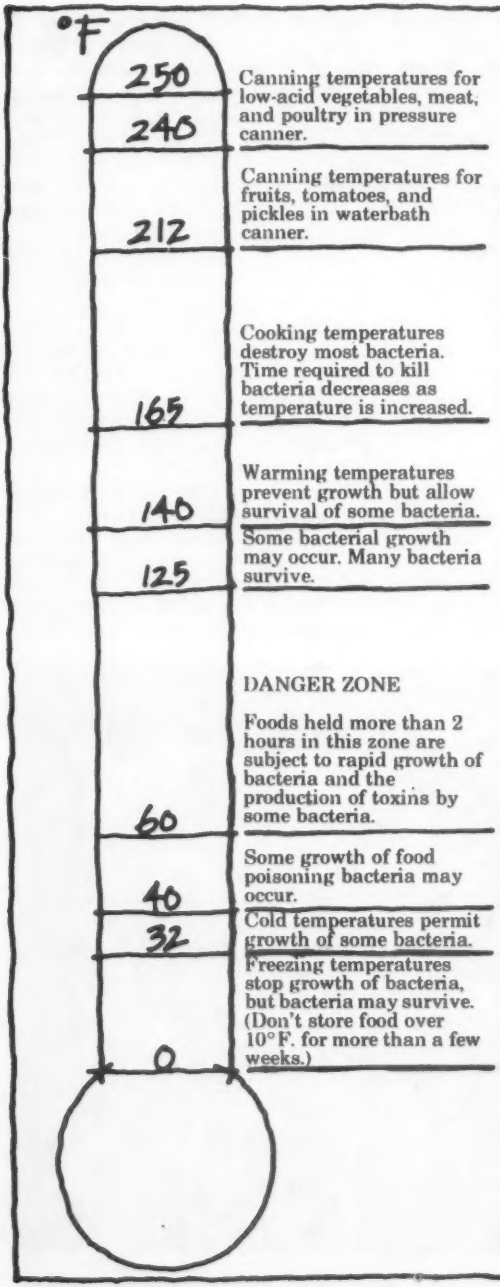
For example, researchers found it takes almost 77 gallons of gasoline and diesel fuel to produce an acre of cabbage. Onions demand nearly 62 gallons per acre, followed by potatoes, 52 gallons, and sweet corn, 34.

As for propane and electricity, researchers found that an acre of corn for grain requires 22 gallons of propane gas and 56 kilowatt hours (kWh's) of electricity. Onions need over 13 gallons and 280 kWh's, and apples, 17 gallons and 583 kWh's.

Milk and dairy products provide more than half of all farm income in New York. During the survey year, dairymen used just over 7 million gallons of fuel for their cows and heifers. And an acre of grapes—another New York mainstay—required about 40 gallons of gasoline and diesel fuel, and just over 5½ gallons of propane.

In 1973, New York farmers burned 39 million gallons of gasoline and nearly 11 million gallons of diesel fuel for all types of field crops, vegetables, and fruit. Total livestock operations gobbled up another 13 million gallons of gasoline alone.

. . . to pinpoint fuel needs of major crops, as well as the State's sizable dairy industry.



can with caution

This year, an estimated 6 million Americans are taking their first crack at home gardening. As their crops ripen, many of the new gardeners will turn to canning—perhaps also for the first time.

Home canning can be a real moneysaver. It can also be dangerous.

Improper canning can result in botulism, a deadly food poisoning. Last year brought a rash of 30 botulism cases.

As a result, USDA launched a massive campaign to alert consumers to canning's hazards. The temperature guide at the left was taken from a similar guide being distributed as part of that program. It emphasizes that home canning requires the very hottest temperatures to halt and destroy bacteria.

USDA cautions canners to use only currently approved canning methods.

If you're unsure of these methods, contact your county extension office or the home economics department at the State experiment station or State university in your area.

A KANSAS TEACH·IN

"Back around the time of the Civil War, Texans drove their cattle up to Kansas railheads for sale. Market conditions, however, were so unstable and sensitive to rumors that it was not uncommon to see the floor drop out of the price because of unsubstantiated information. As a result, livestock could change hands with little if any profit going to the producers."

With that historical introduction, Richard Fenwick, extension economist from Kansas State University (KSU), set the stage for the first of five regional meetings across his State designed to help county agents understand the value and application of today's crop and livestock estimates issued by USDA and the Kansas Crop and Livestock Reporting Service.

The ultimate goal of the sessions held in Garden City, Hoxie, Manhattan, Hutchison, and Chanute was to arm the county agents with information they would pass on to Kansas farmers.

The growing economic pinch producers are finding themselves in provided the main impetus for launching the cooperative program by the KSU Extension Service and the Kansas Crop and Livestock Reporting Service headed by Ray Hancock.

Hancock, Fenwick, and Joe Kropf, KSU livestock extension economist, wanted to alert producers to available agricultural statistics and explain how the data can be used to their advantage.

The audience for the first day-long session at Garden City included agents from 12 southwest Kansas counties, district extension service personnel, a loan officer from a local farmer-stockman bank, and other interested individuals.

Fenwick was quick to establish the fact that if there is to be a strong competitive, open market agriculture, then unbiased, timely, and reliable crop and livestock reports are essential.

Kansas extension economist Joe Kropf outlines facets of agricultural marketing.

As an illustration, he cited the obvious production and marketing differences between manufacturing and farming. "The tractor industry doesn't need outside production forecasts because there are so few manufacturers. Also, prices reflect costs and markups; output is geared to demand and if the market softens production is simply curtailed."

These circumstances generally are not part of agriculture. Farmers must be continually updated on changing production and marketing activities across their industry so they can make those adjustments that are open to them.

"When producers say they don't need crop and livestock estimates or the data shouldn't be made public because the reports hurt farm prices, producers are saying they don't want an open and competitive

market," Fenwick commented. "Farm product buyers have access to private data sources. Without USDA and similar public agencies at the State level, farmers and ranchers would be handicapped."

Fenwick added that denying the validity or usefulness of estimates only works to the disadvantage of the grower. If the open market is to operate, the producer needs to understand what is available and how to evaluate the data to make decisions.

The program to help Kansas farmers, originally promoted by Hancock, treated three basic points: How crop and livestock estimates are developed; why crop and livestock reports are needed; and how to use the data.

Hancock outlined his agency's role in the overall effort; that of collecting raw data, reviewing survey results, and publishing estimates readily accessible to all. He itemized the reports coming from his Topeka office, which include summaries of crop and weather conditions, production prospects, pasture and range situations, cattle on feed, slaughter, livestock coming into and leaving the State, and prices for farm products.

Kropf noted that the reports enable the farmer to know what's happening in Kansas and the rest of the country. Indications of production and supply help him plan ahead.

"The reports help him to improve management practices and market analysis. After evaluating indications, producers may opt for a different mix of crops, or decide to add cattle or sell hogs, make plans for forward contracting, buy and sell futures, or anticipate storing a portion of their crop. The more information at hand, the more choices a grower has."

Kropf concluded by saying that the nature of farming and ranching is such that the person who has reliable information and knows how to use it is better able to compete in today's market.

Data reports are not an "open sesame" to better farm prices but they are most certainly a tool to help achieve them.

Raymond Hancock (second from left) explains agricultural statistics.

Briefings

RECENT REPORTS BY USDA OF ECONOMIC, MARKETING, AND RESEARCH DEVELOPMENTS AFFECTING FARMERS.

TAKING A STAND FOR TIMBER . . . Earlier this year, USDA's Forest Service unveiled its 1975 Forestry Incentives Program (FIP) which is designed to upgrade forest management practices—and therefore timber production—on the Nation's many privately owned forests. In its second year of operation, FIP will be available in areas of most States showing strong potential for improved timber output. Under the arrangements, eligible forest owners will receive 50-75% of the cost of carrying out tree planting and timber stand improvement practices. All FIP agreements must be based on forest management plans developed by the local forester in cooperation with the landowner.

MORE THAN A DROP IN THE BUCKET . . . Maple sirup output for 1975 totaled 1.2 million gallons, up 10% over a year earlier. Production climbed in all States but Michigan and Wisconsin. And with maple sirup bringing a record $10.50 a gallon, value for this year's crop is pegged at $12.6 million.

AND THE LIVIN' IS COSTLY . . . Family living expenditures cost the average farmer $10,786 in 1973, or about 3¼ times more than in 1955, according to an SRS survey. In total, farm operators doled out more than $30½ billion for day-to-day living expenses like food, transportation, clothing, and housing. Transportation alone took just over $3,100, and moved up from fourth place in the 1955 survey to replace housing as the largest single expenditure, accounting for 29% of the total. Housing maintained a close seond with 25%, followed by food 19%, clothing 6%, and medical care 5%.

BRIGHT YEAR ON THE DARK CONTINENT . . . Last year, while much of the world watched weather damage its crops and reduce overall food production, Africa enjoyed record farm output, up 7% from 1973. Top three producers were Nigeria, Egypt, and South Africa. Less encouraging were population gains that held food production per person to a 4% gain.

THIS PLANT WILL SELF DESTRUCT . . . Scientists with USDA's Agricultural Research Service (ARS) are involved in a 2-year study program aimed at getting the witchweed to turn on itself, and in effect, commit suicide. Native to Africa and India, witchweed attacks the roots of at least 60 species of the grass family, including corn, sugarcane, wheat, and rice. In the United States, witchweed has been confined to parts of North and South Carolina, thanks to a vigorous quarantine and control program. But because the weed will thrive anywhere its hosts grow, it poses a major threat to U.S. agriculture. Research centers on strigol, a substance given off by the host plants that causes witchweed to germinate and attack its hosts. With synthesized strigol, the scientists hope to cause witchweed to germinate in the absence of a host, and then to do itself in.

FROM THE BALANCE SHEET . . . USDA economists report that farms with sales of $20,000 or more controlled more than 70% of total farm assets in 1973. They also owed 77% of the Nation's entire farm debt. Farms selling over $20,000 in products have become the most important segment in American agriculture. Between 1960 and 1973, they increased from a tenth to a third of all farms and lifted their sales from about half to nearly nine-tenths of the U.S. total.

LOOK OUT, GERMS! . . . Scientists with USDA's Agricultural Research Service may soon be putting the finishing touches on cotton fabrics that will kill or inhibit the growth of unwanted bacteria. Such fabrics would prove particularly useful in bandages, hospital gowns, sheets and pillowcases, and in wearing apparel with a built-in deodorant. While an effective and practical germicidal finish is close to reality, researchers emphasize that to be useful for items other than bandages, it would have to be durable enough to withstand 50 launderings—the normal lifespan of products like sheets and pillowcases. Right now the treatment still "works" through 20 washings.

AND YOU TOO, FIRE . . . ARS scientists have also uncovered an effective, and less costly process to make smolder-resistant cotton batting for mattresses and upholstery. Previously, treatments that impart fire resistance to woven and knitted cotton fabrics have failed to work for cotton batting, since the flaming combustion of fabrics is entirely different from the slow, flameless burning that occurs in mattresses and other upholstered furniture. The new process, which uses boric acid as the smolder-resistant agent, makes efficient use of chemicals, requires no additional energy, and gives the batting resistance to burning for the life of the end-use product.

Statistical Barometer

Item	1973	1974	1975—latest available data	
Farm Food Market Basket:[1]				
Retail cost (1967=100)	142	162	168	March
Farm value (1967=100)	167	178	171	March
Farmer's share of retail cost (percent)	46	43	39	March
Farm Income:				
Volume of farm marketings (1967=100)	116	116	102	[2]
Cash receipts from farm marketings ($bil.)	88.6	95.0	90.6	[2]
Realized gross farm income ($bil.)	97.0	102.0	98.0	[2]
Production expenses ($bil.)	64.7	74.8	76.5	[2]
Realized net farm income ($bil.)	32.2	27.2	21.5	[2]
Income and Spending:				
Disposable personal income ($bil.)	903.7	979.7	1,017.4	[2]
Expenditures for food ($bil.)	143.6	164.5	177.4	[2]
Share of income spent for food (percent)	15.9	16.8	17.4	[2]
Prices:				
Consumer price index, all items (1967=100)	133.1	147.7	158.6	April
Food (1967=100)	141.4	161.7	171.2	April
Agricultural Trade:				
Agricultural exports ($bil.)	17.7	22.0	1.9	March
Agricultural imports ($bil.)	8.4	10.2	.7	March
Farm Employment and Wage Rates:[3]				
Total employment (1967=100)	89	89	[4]85	April
Family labor (1967=100)	86	86	[4]83	April
Hired labor (1967=100)	89	92	[4]92	April
Wage rates (1967=100)	157	176	[4]189	April
Farm Debt, January 1:				
Farm mortgage debt ($bil.)	35.6	41.3	47.4	[5]
Short-term debt excluding CCC ($bil.)	37.3	42.1	45.9	[5]
CCC loans and guarantees ($bil.)	1.8	.8	.3	[5]
Farm Real Estate:				
Total value, March 1 ($bil.)	259	324	370	
Value per acre, March 1 ($)	247	310	354	

[1]Average annual quantities per family and single person households bought by wage and clerical workers, 1960-61, based on Bureau of Labor Statistics figures.
[2]Annual rate, seasonally adjusted, first quarter.
[3]Seasonally adjusted.
[4]Indexes based on quarterly survey, adjusted for comparability to monthly data.
[5]Preliminary.

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DIANE DECKER, EDITOR

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